# MINERAL AND ORGANIC FERTILIZATION OF SNAP BEAN CROP (cv. UEL-1)

O.R Brito[1]., P.B. Sasso[2], and M.F. Guimarães[1]

[1] Agronomy Department, CCA-UEL. CP 6001. CEP: 86051-990 Londrina-PR. Brasil. Email: osmar@uel.br. [2] Agronomy Undergraduate. UEL, Londrina-PR. Brasil.

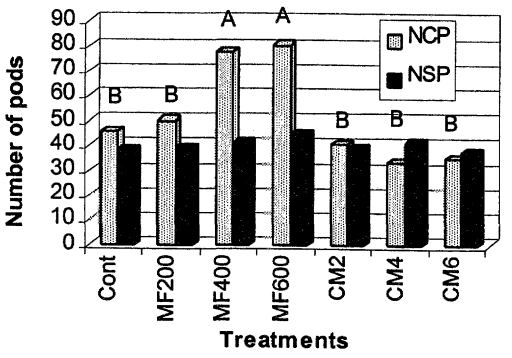
Now days in Brazil a great advance in organic agriculture is been held such in the crop area as in the new knowledge generation. Producing food free of agrochemicals is now a demand from many consumers. The use of mineral fertilizers solves the immediate need of nutrients for the crops, but the incorrect or abusive use of this input has resulted in the degradation of the soils and pollution of water resources. Organic fertilization improves the physical and chemical properties of the soils, increasing the supply of micro and macronutrients, reducing the effect of toxic substances and increasing its buffer capacity. The recommendations for snap beans crops are based mainly in the use of mineral fertilizers and the information about the use of organic fertilizers is scarce, specially for the tested cultivar in. This study was carried out with the purpose of evaluating the response of snap beans (cv UEL-1) to chemical and organic fertilization.

## Material and Methods

The experiment was carried out in a Oxisol (Latossolo Vermelho Escuro (EMBRAPA,1999)), clay texture, at Campus of UEL, Londrina , PR-Brazil. For the organic fertilization cattle manure (**CM**) was used and for mineral fertilization (**MF**) a 04-14-08 fertilizer formulation was used. A complete randomized design with three replicates was used to test the following treatments: **Control, MF=200 k ha$^{-1}$ , MF=400 k ha$^{-1}$, MF=600 k ha$^{-1}$, CM=2 t ha$^{-1}$, CM=4 t ha$^{-1}$** and **CM=6 t ha$^{-1}$**. At 36 and 42 days after sowing, the fertilizations were carried out, using a total of 2 t/ha of **CM** in the treatments with organic fertilization and 90 kg ha$^{-1}$ of N (urea), in the mineral fertilization and control treatments (to avoid sub-optimal supply of N (ARAUJO et al. (2000)). At 62 days after sowing the harvest was carried out evaluating the number of small (**NSP**) and commercial pods (**NCP**) and the yield of commercial pods.

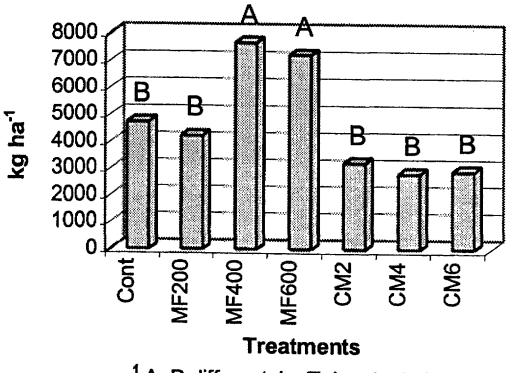
## Results and Discussion

**Figure 1. Number of pods / 10 plants[1]**




[1] A, B are different by Tukey test at 5%.

**Figure 2. Yield of commercial pods[1]**




[1] A, B different by Tukey test at 5%.

The production of pods was influenced by the type of fertilization. The highest yields of commercial pods were obtained with the use of mineral fertilizers (Figure 1). The number of small pods (< 10 cm in length) wasn't significantly influenced by the treatments but was higher than commercial pods in treatments with higher doses of **CM** (Figure 1).

Considering only yield of commercial pods isolated it can be see that the highest yields were obtained with the treatments **MF400** and **MF600** (Figure 2).

## Conclusion

The mineral fertilization resulted in higher yields of snap beans in relation to the use of organic fertilization. The application of 400 kg $ha^{-1}$ of 04-14-08, resulted in a higher yield of commercial pods. The highest doses of **CM**, resulted in a higher number of small pods than commercial pods, indicating a delay in the crop cycle.

## References

Araujo, A. P. , M. G. Teixeira, and D.L. Almeida. 2000 Growth and yield of common bean cultivars a two soil phosphorus levels under biological nitrogen fixation. Pesq. agropec. bras. v. 35, n.4 . p. 809-17.

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